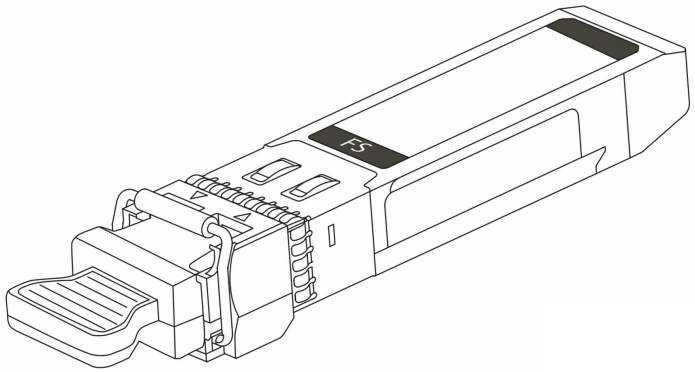
Fiber Channel Transceiver Modules Data Sheet

Contents

Product overview

The FS® Fiber Channel Small Form-Factor Pluggable (SFP/SFP+/SFP28/QSFP28) portfolio offers customers a wide variety of high-density and low-power 2G/4G/8G/16G/32G/128G Fibre Channel connectivity options for data center, high-performance computing networks, enterprise core and distribution layers, and service provider applications. The 2G/4G/8G/16G/32G/128G Fibre Channel modules are our latest generation of Fibre Channel transceiver modules solution based on SFP/SFP+/SFP28/QSFP28 form factor. (See Figure 1).



- SFP-10G-BX
- SFP-10GER-55
- SFP-10GER-31
- SFP-10GSR-85

Figure 1.
8G SFP+ Optical Fiber Channel modules

Features and benefits

- Hot-swappable input/output device that plugs into a 2G/4G/8G/16G/32G/128G Gigabit Ethernet port
- Interoperable with other IEEE-compliant 2G/4G/8G/16G/32G/128GBASE interfaces where applicable
- Certified and tested on Cisco, Arista, Juniper, Brocade SFP/SFP+/SFP28/QSFP28 ports for superior performance, quality, and reliability. For more details, refer to the FS Assured Program for Transceivers
- Digital optical monitoring capability for strong diagnostic capabilities

Table 1 describes the Fiber Channel modules portfolio.

Table 1. Fiber Channel modules portfolio

Product	Description	Connector type
Q28-128GM-SW4	128GBASE SW4 QSFP28 Transceiver, MTP/MPO-12, 100m over OM4 MMF	MTP/MPO-12
SFP28-32GSR-85	32GBASE SR SFP28 Transceiver, Duplex LC, 100m over OM4 MMF	Duplex LC
SFP28-32GLR-31	32GBASE LR SFP28 Transceiver, Duplex LC, 10km over SMF	Duplex LC

Product	Description	Connector type
SFP-16GSR-85	16GBASE SR SFP+ Transceiver, Duplex LC, 100m over OM4 MMF	Duplex LC
SFP-16GLR-31	16GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF	Duplex LC
SFP-16GER-55	16GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	Duplex LC
CWxx-16GSFP-40	16GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF	Duplex LC
SFP-10GSR-85	8GBASE SR SFP+ Transceiver, Duplex LC, 150m over OM4 MMF	Duplex LC
SFP-10GLR-31	8GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF	Duplex LC
SFP-10GER-31	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	Duplex LC
SFP-10GER-55	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	Duplex LC
SFP-10GZR-55	8GBASE ZR SFP+ Transceiver, Duplex LC, 80km over SMF	Duplex LC
SFP-10G-BX	8GBASE BiDi SFP+ Transceiver, Duplex LC, 10km over SMF	Simplex LC
CWDM-SFP10G-40L	8GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF	Duplex LC
SFP4G-SW-85	4GBASE SW SFP Transceiver, Simplex LC, 150m over OM4 MMF	Duplex LC
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 4km over SMF	Duplex LC
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 10km over SMF	Duplex LC
SFP-2GSR-85	2GBASE SR SFP Transceiver, Simplex LC, 300m over OM4 MMF	Duplex LC
SFP-2GSR-31	2GBASE SR SFP Transceiver, Simplex LC, 2km over SMF	Duplex LC
SFP-2GIR-31	2GBASE IR SFP Transceiver, Simplex LC, 10km over SMF	Duplex LC
SFP-2GLR-31	2GBASE LR SFP Transceiver, Simplex LC, 40km over SMF	Duplex LC
SFP-2GLR-55	2GBASE LR SFP Transceiver, Simplex LC, 40km over SMF	Duplex LC
SFP-2GL2-55	2GBASE LR SFP Transceiver, Simplex LC, 80km over SMF	Duplex LC

Q28-128GM-SW4

The QSFP28 transceiver supports up to 100m link lengths over multimode fiber (MMF) via MTP/MPO-12 connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 128G.

SFP28-32GSR-85

The SFP28-32GSR-85 Module provides 32GBase-SR throughput up to 100m over multimode fiber (MMF) using a wavelength of 850nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 32G

SFP28-32GLR-31

The SFP28-32GLR-31 Module provides 32GBase-LR throughput up to 10km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 32G

SFP-16GSR-85

The SFP-16GSR-85 Module provides 16GBase-SR throughput up to 100m over multimode fiber (MMF) using a wavelength of 850nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 16G

SFP-16GLR-31

The SFP-16GLR-31 Module provides 16GBase-LR throughput up to 10km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 16G

SFP-16GER-55

The SFP-16GER-55 transceiver provides 16GBase-ER throughput up to 40km over single mode fiber (SMF) using a wavelength of 1550nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 16G

CWxx-16GSFP-40

The CWxx-16GSFP-40 transceiver supports up to 40km link lengths over single-mode fiber (SMF) via an LC duplex connector. This transceiver is compliant with SFF-8431 and SFF-8472 MSA standards. Digital diagnostics functions are available via a 2-wire serial interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 16G.

DWCxx-16GSFP-40

The DWCxx-16GSFP-40 transceiver supports up to 40km link lengths over single-mode fiber (SMF) via an LC duplex connector. This transceiver is compliant with SFF-8431 and SFF-8472 MSA standards. Digital diagnostics functions are available via a 2-wire serial interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 16G.

SFP-10GSR-85

The SFP-10GSR-85 Module provides 8GBase-SR throughput up to 150m over multimode fiber (MMF) using a wavelength of 850nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 8G

SFP-10GLR-31

The SFP-10GLR-31 Module provides 8GBase-LR throughput up to 10km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 8G

SFP-10GER-31

The SFP-10GER-31 transceiver provides 8GBase-ER throughput up to 40km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 8G

SFP-10GER-55

The SFP-10GER-55 transceiver provides 8GBase-ER throughput up to 40km over single mode fiber (SMF) using a wavelength of 1550nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 8G

SFP-10GZR-55

The SFP-10GZR-55 transceiver provides 8GBase-ER throughput up to 80km over single mode fiber (SMF) using a wavelength of 1550nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 8G

CWDM-SFP10G-40L

The CWDM-SFP10G-40L transceiver supports up to 40km link lengths over single-mode fiber (SMF) via an LC duplex connector. This transceiver is compliant with SFF-8431 and SFF-8472 MSA standards. Digital diagnostics functions are available via a 2-wire serial interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application such up to 8G.

SFP-10G-BX

The SFP-10G-BX transceiver supports up to 10km link lengths over OS2 SMF and is suitable for 10G Ethernet, CPRI/eCPRI and Data Center applications. This bi-directional unit must be used with another transceiver or network equipment of complementary wavelengths. It is compliant with IEEE 802.3cc, SFP MSA, SFP28 MSA, SFF-8402, SFF-8472, SFF-8432, SFF-8431 and CEI-28G-VSR standards. The built-in digital diagnostics monitoring (DDM) allows access to real-time operating parameters.

SFP4G-SW-85

The SFP4G-SW-85 Module provides 4GBase-SW throughput up to 150m over multimode fiber (MMF) using a wavelength of 850nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 4G

SFP4G-LW-31

The SFP4G-LW-85 Module provides 4GBase-LW throughput up to 4km/10km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 4G

SFP-2GSR-85

The SFP-2GSR-85 Module provides 2GBase-SR throughput up to 300m over multimode fiber (MMF) using a wavelength of 850nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 2G

SFP-2GSR-31

This SFP-2GSR-31 Module provides 2GBase-SR throughput up to 10km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 2G

SFP-2GIR-31

This SFP-2GIR-31 Module provides 2GBase-IR throughput up to 10km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 2G

SFP-2GLR-31

This SFP-2GLR-31 Module provides 2GBase-LR throughput up to 40km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 2G

SFP-2GLR-55

This SFP-2GLR-55 Module provides 2GBase-LR throughput up to 40km over single mode fiber (SMF) using a wavelength of 1550nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 2G

SFP-2GL2-55

This SFP-2GL2-55 Module provides 2GBase-LR throughput up to 80km over single mode fiber (SMF) using a wavelength of 1550nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 2G

Product Specifications

Table 2 shows the key electrical characteristics for the Fiber Channel modules.

Table 2. Electrical specifications

Product	Description	Nominal datarate (Gbs)	Link meter
Q28-128GM-SW4	128GBASE SW4 QSFP28 Transceiver, MTP/MPO-12, 100m over OM4 MMF	112.2Gbps	100m
SFP28-32GSR-85	32GBASE SR SFP28 Transceiver, Duplex LC, 100m over OM4 MMF	28.05Gbps	100m
SFP28-32GLR-31	32GBASE LR SFP28 Transceiver, Duplex LC, 10km over SMF	28.05Gbps	10km
SFP-16GSR-85	16GBASE SR SFP+ Transceiver, Duplex LC, 100m over OM4 MMF	14.025Gbps	100m
SFP-16GLR-31	16GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF	14.025Gbps	10km
SFP-16GER-55	16GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	14.025Gbps	40km
CWxx-16GSFP-40	16GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF	14.025Gbps	40km
DWCxx-16GSFP-40	16GBASE DWDM SFP+ Transceiver, Duplex LC, 40km over SMF	14.025Gbps	40km
SFP-10GSR-85	8GBASE SR SFP+ Transceiver, Duplex LC, 150m over OM4 MMF	8.5Gbps	150m
SFP-10GLR-31	8GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF	8.5Gbps	10km
SFP-10GER-31	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	8.5Gbps	40km
SFP-10GER-55	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	8.5Gbps	40km
SFP-10GZR-55	8GBASE ZR SFP+ Transceiver, Duplex LC, 80km over SMF	8.5Gbps	80km
SFP-10G-BX	8GBASE BiDi SFP+ Transceiver, Duplex LC, 10km over SMF	11.3Gbps	10km
CWDM-SFP10G-40L	8GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF	11.3Gbps	40km

Product	Description	Nominal datarate (Gbs)	Link meter
SFP4G-SW-85	4GBASE SW SFP Transceiver, Simplex LC, 150m over OM4 MMF	4.25Gbps	150m
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 4km over SMF	4.25Gbps	4km
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 10km over SMF	4.25Gbps	10km
SFP-2GSR-85	2GBASE SR SFP Transceiver, Simplex LC, 300m over OM4 MMF	2.67Gbps	300m
SFP-2GSR-31	2GBASE SR SFP Transceiver, Simplex LC, 2km over SMF	2.67Gbps	2km
SFP-2GIR-31	2GBASE IR SFP Transceiver, Simplex LC, 10km over SMF	2.67Gbps	10km
SFP-2GLR-31	2GBASE IR SFP Transceiver, Simplex LC, 40km over SMF	2.67Gbps	40km
SFP-2GLR-55	2GBASE LR SFP Transceiver, Simplex LC, 40km over SMF	2.67Gbps	40km
SFP-2GL2-55	2GBASE LR SFP Transceiver, Simplex LC, 80km over SMF	2.67Gbps	80km

Table 3 shows the key optical characteristics for the Fiber Channel modules.

Table 3. Optical specifications

Product	Description	Transmit Power (dBm) per lane		Receive Power (dBm) per lane		Transmit and Receive Wavelength (nm)
		Minimum	Maximum	Minimum	Maximum	
Q28-128GM-SW4	128GBASE SW4 QSFP28 Transceiver, MTP/MPO-12, 100m over OM4 MMF	-8.5	2.4	-10.3	2.4	850
SFP28-32GSR-85	32GBASE SR SFP28 Transceiver, Duplex LC, 100m over OM4 MMF	-8	3	-14	0	850
SFP28-32GLR-31	32GBASE LR SFP28 Transceiver, Duplex LC, 10km over SMF	-7	2	-14	2	1310
SFP-16GSR-85	16GBASE SR SFP+ Transceiver, Duplex LC, 100m over OM4 MMF	-7.8	-1.3	-10.5	0	850
SFP-16GLR-31	16GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF	-5	2	-18	2	1310
SFP-16GER-55	16GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	-1	3	-19	2	1550
CWxx-16GSFP-40	16GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF	0	5	-19	2	1470 to 1610
DWCxx-16GSFP-40	16GBASE DWDM SFP+ Transceiver, Duplex LC, 40km over SMF	0	5	-19	2	1528.77 to 1563.86
SFP-10GSR-85	8GBASE SR SFP+ Transceiver, Duplex LC, 150m over OM4 MMF	-7.3	-1	-11.1	0.5	850
SFP-10GLR-31	8GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF	-8.2	0.5	-14.4	0.5	1310
SFP-10GER-31	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	0	5	-15	1	1310
SFP-10GER-55	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	-1	4	-16	-1	1550
SFP-10GZR-55	8GBASE ZR SFP+ Transceiver, Duplex LC, 80km over SMF	0	5	-23	-7	1550

Product	Description	Transmit Power (dBm) per lane		Receive Power (dBm) per lane		Transmit and Receive Wavelength (nm)
		Minimum	Maximum	Minimum	Maximum	
SFP-10G-BX	8GBASE BiDi SFP+ Transceiver, Duplex LC, 10km over SMF	-8.2	0.5	-14.4	0.5	1270 (Tx) 1330 (Rx)
CWDM-SFP10G-40L	8GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF	-1	4	-6	-8	1470 to 1610
SFP4G-SW-85	4GBASE SW SFP Transceiver, Simplex LC, 150m over OM4 MMF	-2	4	-13	2	850
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 4km over SMF	-9	-3	-14	2.5	1310
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 10km over SMF	-8.4	-1	-18	2	1310
SFP-2GSR-85	2GBASE SR SFP Transceiver, Simplex LC, 300m over OM4 MMF	-10	-3	-17	-3	850
SFP-2GSR-31	2GBASE SR SFP Transceiver, Simplex LC, 2km over SMF	-7	2.5	-19	-3	1310
SFP-2GIR-31	2GBASE IR SFP Transceiver, Simplex LC, 10km over SMF	-5	0	-18	0	1310
SFP-2GLR-31	2GBASE IR SFP Transceiver, Simplex LC, 40km over SMF	-1	3	-30	0	1310
SFP-2GLR-55	2GBASE LR SFP Transceiver, Simplex LC, 40km over SMF	-2	3	-18	0	1550
SFP-2GL2-55	2GBASE LR SFP Transceiver, Simplex LC, 80km over SMF	-2	3	-28	-7	1550

Table 4 shows the mechanical characteristics for the Fiber Channel modules.

Table 4. Mechanical specifications

Parameter	Product	Weight
Module dimension with pull tab	(H x W x D) 8.5 x 18.35 x 123.41 mm	
Module weight (Max)	72 g	
Module operation temperature	0 to 70° C	
Storage temperature	-40 to 85° C	

Warranty

- Standard warranty: 5 years
- For more information for FS Returns & Refunds policy, visit https://www.fs.com/policies/warranty.html or https://www.fs.com/policies/day_return_policy.html

Ordering information

Table 5 provides the ordering information for Fiber Channel modules.

Table 5. Ordering information

Part number	Description
SFP28 optics modules	
Q28-128GM-SW4	128GBASE SW4 QSFP28 Transceiver, MTP/MPO-12, 100m over OM4 MMF
SFP28-32GSR-85	32GBASE SR SFP28 Transceiver, Duplex LC, 100m over OM4 MMF
SFP28-32GLR-31	32GBASE LR SFP28 Transceiver, Duplex LC, 10km over SMF
SFP-16GSR-85	16GBASE SR SFP+ Transceiver, Duplex LC, 100m over OM4 MMF
SFP-16GLR-31	16GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF
SFP-16GER-55	16GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF
CWxx-16GSFP-40	16GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF
DWCxx-16GSFP-40	16GBASE DWDM SFP+ Transceiver, Duplex LC, 40km over SMF
SFP-10GSR-85	8GBASE SR SFP+ Transceiver, Duplex LC, 150m over OM4 MMF
SFP-10GLR-31	8GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF
SFP-10GER-31	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF
SFP-10GER-55	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF
SFP-10GZR-55	8GBASE ZR SFP+ Transceiver, Duplex LC, 80km over SMF
SFP-10G-BX	8GBASE BiDi SFP+ Transceiver, Duplex LC, 10km over SMF
CWDM-SFP10G-40L	8GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF
SFP4G-SW-85	4GBASE SW SFP Transceiver, Simplex LC, 150m over OM4 MMF
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 4km over SMF
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 10km over SMF
SFP-2GSR-85	2GBASE SR SFP Transceiver, Simplex LC, 300m over OM4 MMF
SFP-2GSR-31	2GBASE SR SFP Transceiver, Simplex LC, 2km over SMF
SFP-2GIR-31	2GBASE IR SFP Transceiver, Simplex LC, 10km over SMF

Part number	Description
QSFP28 optics modules	
SFP-2GLR-31	2GBASE IR SFP Transceiver, Simplex LC, 40km over SMF
SFP-2GLR-55	2GBASE LR SFP Transceiver, Simplex LC, 40km over SMF
SFP-2GL2-55	2GBASE LR SFP Transceiver, Simplex LC, 80km over SMF

Regulatory and standards compliance

Standards

- FC-PI 13.0 Compliance for 1.0625/2.125 Gbit/sec Operation
- FC-PI-2 Compliance for 1.0625/2.125/4.25 Gbit/sec Operation
- FC-PI-4 compliance for 8.5/4.25/2.125 Gbit/sec operation
- FC-PI-5 Compliance for 14.025/8.5/4.25Gb/s Operation
- FC-PI-6 Compliance for 28.05/14.025/8.5Gb/s Operation
- FC-PI-6P Compliance for 112.2/56.1/34Gb/s Operation
- SFF-8472: Common Management Interface
- 802.3™-2012 IEEE Standard for Ethernet
- GR-20-CORE: Generic Requirements for Optical Fiber and Optical Fiber Cable
- GR-326-CORE: Generic Requirements for Single-Mode Optical Connectors and Jumper Assemblies
- GR-468-CORE: Generic Requirements for Optoelectronic Devices Used in Telecommunications Equipmet
- GR-1435-CORE: Generic Requirements for Multifiber Optical Connectors
- RoHS 6

Safety

- Modules are compliant with Laser Class 1 as defined in IEC 60825-1, IEC 60825-2 and Comply with 21 CFR 1040.10 and 1040.11

Table 6. Laser class for the Fiber Channel optical modules

Product	Laser class
Q28-128GM-SW4	1
SFP28-32GSR-85	1
SFP28-32GLR-31	1
SFP-16GSR-85	1
SFP-16GLR-31	1
SFP-16GER-55	1
CWxx-16GSFP-40	1
DWCxx-16GSFP-40	1
SFP-10GSR-85	1
SFP-10GLR-31	1
SFP-10GER-31	1
SFP-10GER-55	1
SFP-10GZR-55	1
SFP-10G-BX	1
CWDM-SFP10G-40L	1
SFP4G-SW-85	1
SFP4G-LW-31	1
SFP4G-LW-31	1
SFP-2GSR-85	1
SFP-2GSR-31	1
SFP-2GIR-31	1
SFP-2GLR-31	1
SFP-2GLR-55	1
SFP-2GL2-55	1

Additional information

For more information about Fiber Channel optics modules, contact your account manager or visit https://www.fs.com/c/fiber-optic-transceivers-9

Document history

New or revised topic	Described in	Date
Fiber Channel Transceiver Modules Data Sheet	Updated all	10/14/2022
Fiber Channel Transceiver Modules Data Sheet	Add Q28-128GM-SW4 module	11/10/2022
Fiber Channel Transceiver Modules Data Sheet	Add CWxx-16GSFP-40 module	12/31/2022
Fiber Channel Transceiver Modules Data Sheet	Add DWCxx-16GSFP-40 module	2/15/2023

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